DOCUMENT RESUME

ED 153 707 PS 009 851

AUTHOR Sullivan, Roxanne L.; Lange, Garrett
TITLE Teaching Memory Skills to Young Children in Home and School Environments.
PUB DATE Mar 78
NOTE 11p.; Paper presented at the Annual Meeting of the Midwestern Association for the Education of Young Children (Dearborn, Michigan, March 9-12, 1978)

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS Cognitive Development; *Cognitive Processes; Fathers; *Memory; *Mnemonics; Mothers; *Parent Role; *Preschool Children; Recall (Psychological); Research

ABSTRACT

This study assessed the role of parental teaching in improving children's memory skills. Subjects were 32 parent couples, each with a 3- or 4-year-old child. Teaching sessions consisted of each parent helping his or her child memorize a 20-item set of pictures of familiar objects for a free-recall task. Verbal communications of each parent were converted into message units, defined as single meaningful statements or questions. Four primary strategies were evident: simple naming, item elaboration, story elaboration, and grouping. Results indicated that the only strategy frequently used by both mothers and fathers was simple naming. Children achieved similar levels of recall with both mothers and fathers serving as teachers. Recall scores increased with chronological age, and the number of items recalled at both age levels was substantially higher than the numbers reported previously by Meyers and Permutter for same-age children under self-study instructions. There was no apparent correction between any of the teaching strategies parents used and the children's ability to remember the picture names. Strategy-related message units were recoded on the basis of whether they encouraged or required the child to operate on the items (by grouping, elaborating or naming) and whether the child did so. Results indicated that less than 25% of all strategy-related communications encouraged the child to operate on an item, and of those statements, only 19% were successful. Plans for a survey to study parental emphasis on memory in the home are discussed. (Author/SE)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED153707

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

Teaching Memory Skills to Young Children in Home and School Environments

Roxanne L. Sullivan and Garrett Lange

Department of Child Development and Family Studies

Purdue University

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Garrett Lange

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

PS 009851

Paper presented at the annual meeting of the Midwestern Association for the Education of Young Children, Dearborn, Michigan, March 9-12, 1978.

Teaching Memory Skills to Young Children

in Home and School Environments

Since the mid-1960s a great deal of child development research and theory has been centered on children's memory development during the preschool and early school years. Most of this research suggests that year-to-year memory improvements are not due to any physiological changes in the memory system itself, but rather that these improvements are due to the older child's more deliberate attempts to memorize and to his/her greater use of mnemonic strategies to help him/her to remember (cf., Brown, 1975; Hagen, 1975). Thus, it becomes important to know why the young child begins to be more planful and strategic in his/her memory behavior during the age period of four to eight years.

Several recent theorists (Brown, 1977; Cole & Scribner, 1977, 1975a, 1975b; Scribner & Cole, 1973) have attributed children's early use of mnemonic strategies to the demands they encounter in formal schooling environments during the primary grades. For example, Brown (1975) states:

> "Outside the school setting, in unschooled populations including that of the preschool child, such activities (i.e., learning of study and memory skills) are rarely if ever encountered. Deliberate remembering as an end in itself rather than as a means to achieve a meaningful goal is very much a school-inspired activity."

As reasonable as this position appears, very little research has dealt directly with the influences of schooling on cognitive strategy development, and there is no available research to indicate the types of memory experiences children encounter in home environments before entering school.

An alternative position is that children's mnemonic strategy behavior evolves as a gradual developmental process which begins well before the

child enters school. Here it can be argued that, although the preschool child may not be required to learn strategies for remembering as ends in themselves, or to execute them at their own direction, he/she is likely to become familiar with certain mnemonic strategies and the facilitative effects they have for recall, through the normal course of learning experiences with parents.

It was with this alternative position in mind that the following research project was conducted. Specifically, we wanted to assess how demanding are parents on the retention proficiency of their young children, the types of strategies parents use to teach their children to memorize information, and the types of information parents feel should be left up to the school, rather than the home, to teach their children to memorize.

We have approached these issues from two research directions. First, we have used a controlled observation procedure to examine the likelihood that parents familiarize their young children with mnemonic study strategies in the home environment. The procedure required mothers and fathers of three- and four-year-old preschoolers to help their children study pictured objects for an ensuing free-recall task administered by the investigator. It was assumed that if parents do expose their children to mnemonic study strategies in the home, direct teaching should reflect these tendencies. This would argue that we analyze more closely the strategy references that parents make in informal learning situations in the home. A second objective was to determine which of the study strategies used by parents to help their children to learn are most beneficial for the young child at the time of recall.

To examine these issues, 32 parent couples and their children (one

child per couple) participated in the study. Both the three-year-old and four-year-old samples were composed of 16 children. Teachers described the families as being representative of middle- and upper-middle income and occupational levels. Scores on the Peabody Picture Vocabulary Test showed the children to be a brighter than average group, with a mean verbal IQ score of 120.

Teaching sessions were conducted in a large testing room, adjacent to an observation booth. Each parent was instructed to help his/her child to memorize a 20 item set of pictures of familiar objects so that when the investigator administered the free-recall task, the child would remember as many of the names of the objects as possible. When the parent felt the child was ready for the recall task, he/she signaled the investigator, who was seated in the observation booth and who then administered the free-recall task. Teaching sessions were tape recorded and later transcribed. The average session lasted eight minutes per dyad, although the length of individual sessions was highly variable.

In order to perform quantitative analysis, the verbal communications of each parent were first converted to message units, which are single meaningful statements or questions (Hess & Shipman, 1965; Davis & Lange, 1973). A preliminary survey of protocols indicated that the majority of the parents' communications centered on four strategies: a simple naming strategy in which the parent named items or asked the child to do so; an item elaboration strategy in which parents described unseen properties or locations associated with the objects or encouraged their children to do so through questions (e.g., "Where have you seen a fence like this around our house?" or "This is like the coat that Daddy wears"); a story elaboration

strategy in which items were mentioned and discussed in a story context; and a grouping strategy in which parents assigned items to phonemic, perceptual, or semantic groupings, or asked the children to establish these groupings (e.g., "Find the outdoor things and put them together on the table; now find the things that have sharp points"). Before going on, I should say that there is a good deal of evidence to suggest that the elaborative and grouping strategies are more effective for all age groups of verbal children than simple naming.

The first table (Table 1) shows that the relative frequency of reference to the four study strategies was very similar and highly consistent for both mothers and fathers. Although nearly 70 percent of all parent messages could be classified as strategy-related, the only strategy frequently used by both mothers and fathers was that of simple naming. Fathers used significantly more of this naming strategy than did mothers in their communications, and this finding accounts for the fact that fathers also communicated more strategy-related messages. For the strategy references which did fall in the elaborative and grouping categories, nearly 80 percent appealed to the child's pre-acquired and sometimes personal knowledge of the objects, rather than to knowledge of a more universal or generic nature. In fact, only two percent of total messages encouraged groupings on the basis of adult-like taxonomic criteria, such as "these are tools."

Children achieved similar levels of recall with both mothers and fathers serving as teachers, as can be seen in Table 2. Recall scores did increase with chronological age, and the number of items recalled by our samples at both age levels were substantially higher than those reported previously by Meyers and Permutter (in press) for same-age children under

self-study instructions.

Our attempts to find relationships between the relative frequencies of parents' reliance on the four strategies and the children's recall scores were generally unsuccessful. In other words, there was no apparent connection between any of the teaching strategies parents used and the children's ability to remember the picture names.

One possible explanation for this is that parents failed to get the children to actually use these strategies during the study session. To examine this possibility, all strategy-related message units were recoded on the basis of whether they actually encouraged or required the child to operate on the items (i.e., to name, elaborate, or group) himself/herself and as to whether the parents' attempts at encouraging him/her to use these strategies were actually successful. As it turned out, less than 25 percent of all strategy-related communications actually encouraged the child to operate upon the items himself/herself, and there was no significant difference in the mean proportion of operative statements used by mothers and fathers. Of those statements which did encourage or require active study on the part of the child, only 19 percent were actually successful in getting the child to act upon the items by grouping, elaborating, or naming them.

These findings, at least for our sample, suggest that the young child is likely to acquire little experience with effective adult-like study and memory strategies when interacting with parents, even in situations which involve direct teaching. Moreover, when parents do refer to elaborative and grouping strategies as a means to help their children to remember, they make few attempts to have the children actually use the strategies in the way of self-study.

As a second means to explore the young child's memory experiences at home, we have recently begun an interview study of parents of four- and five-year-old children from rural and urban areas in Indiana. It is our hope to learn how concerned parents are about their children's retention proficiency and how demanding parents are that their children retain various types of knowledge or information in the home environment. The interview instrument consists of both fixed-alternative and open-ended questions and has been designed to obtain information in the following areas:

1. The types of information parents encourage or demand their children to retain in the home environment from day to day.
2. The types of information which parents feel should be required for memorization in the schools, but not in the home.
3. The manner in which parents put their memory expectations into practice (e.g., by formal or informal testing).
4. The methods by which parents attempt to teach their children memory skills, either directly or indirectly, through games or other types of exercises.

If Brown's (1977) earlier mentioned statement is correct (i.e., that the learning of study and memory skills in the home is rarely if ever encountered), we expect to find little evidence that parents actually demand or require their children to memorize factual information on a day-to-day basis in the home. We would also expect to find little evidence that the majority of parents devote much time to improving or teaching memory skills to their children, using such methods as "memory games" or repetition of the to-be-remembered material.

Of particular importance in this study are the differences that may

result among parents having higher or lower aspirations for the children's future educational achievements. Pending the likelihood that our parents will exhibit different academic aspirations for their children's future, these parents may also vary in the rigor with which they emphasize academic training in the home environment. Thus, it is possible that parents who have higher academic aspirations for their children will place greater demands on their children's memory for factual information in the home. We would also expect these parents to place greater emphasis on methods to help their children improve their memory skills.

The next step which needs to be taken is to examine carefully the methods by which the schools promote and demand memorization of factual information on a day-to-day basis so as to compare home and school environments with regard to their contributions to children's memory strategy development. It is also of interest to determine if any change occurs in the child's home experiences with memorization as a result of the child's memorization experiences in the school. These issues will be taken up seriously by our group beginning this summer.

At this stage, our research in this area is primarily descriptive in nature and is not suited for much in the way of concrete implications. Our purpose is to begin to understand the memorization experiences young children are likely to have at home and at school, and in the process, to better understand the course of children's memory development itself.

References

Brown, A. L. Development, schooling, and the acquisition of knowledge. In R. C. Anderson, R. J. Spiro, and W. E. Montague (Eds.), Schooling and the acquisition of knowledge. Hillsdale, New Jersey: Earlbaum, Associates, 1977.

Brown, A. L. The development of memory: Knowing, knowing about knowing, and knowing how to know. In H. W. Reese (Ed.), Advances in child development and behavior, Vol. 10. New York: Academic Press, 1975.

Cole, M. & Scribner, S. Cross-cultural studies of memory and cognition. In Kail, R. V. and Hagen, J. W. (Eds.), Perspectives on the development of memory and cognition. Hillsdale, New Jersey: Earlbaum Associates, 1977.

Cole, M. & Scribner, S. Theorizing about socialization of cognition. Ethos, 1975, 3 (2), 251-267. (a)

Cole, M. & Scribner, S. Developmental theories applied to cross-cultural cognitive research. Paper presented at the New York Academy of Sciences, October 1975. (b)

Davis, A. J. & Lange, G. Parent-child communications and the development of categorization styles in preschool children. Child Development, 1973, 44 (3), 624-629.

Hagen, J. W., Jongeward, R. H., & Kail, R. V. Cognitive perspectives on the development of memory. In H. W. Reese (Ed.), Advances in child development and behavior, Vol. 10. New York: Academic Press, 1975.

Hess, R. D. & Shipman, V. C. Early experience and the socialization of cognitive modes in children. Child Development, 1965, 36, 869-886.

Scribner, S. & Cole, M. Cognitive consequences of formal and informal education. Science, 1973, 182, 553-559.

Table 1

Mean Percentages of Parents' Message Units in Each Strategy Category

Stragegies	Child With Mother			Child With Father		
	3-yr-olds	4-yr-olds	Total	3-yr-olds	4-yr-olds	Total
Naming	43	36	39	52	46	49
Item Elaboration	16	12	14	12	13	12
Story Elaboration	02	04	03	01	04	02
Grouping	03	12	08	07	08	07
Total Strategy Usage	64	64	64	72	71	70

Table 2

Age Differences in Children's Recall With Mothers and Fathers

Recall	Child With Mother			Child With Father		
	3-yr-olds	4-yr-olds	Total	3-yr-olds	4-yr-olds	Total
Number of Pictures Recalled	5.00	7.31	6.16	4.81	7.50	6.16
S Standard Deviation	3.27	3.93		2.37	2.76	